What is claimed is:

1. A channel quality reporting method for use by a wireless terminal, the method comprising:

measuring at least one of an amplitude and a phase of a first pilot signal corresponding to a first pilot tone to produce a first measured signal value;

generating a first channel quality indicator value from said first measured signal value according to a first function which uses at least said first measured signal value as an input;

transmitting the first channel quality indicator value;

measuring at least one of an amplitude and a phase of a second pilot signal corresponding to a second pilot tone to produce a second measured signal value, the second pilot signal having a different transmission power than said first pilot signal;

generating a second channel quality indicator value from said second measured signal value according to a second function which uses at least said second measured signal value as an input; and

transmitting the second channel quality indicator value.

2. The method of claim 1, wherein one of the first and second pilot signals is a NULL signal transmitted with zero power.

3. The method of claim 1, wherein generating a first channel quality indicator value from said first signal measurement value according to a first function includes:

estimating the power included in at least one of the first and second received pilot signals.

4. The method of claim 3, wherein generating a second channel quality indicator value from said second signal measurement value according to a second function includes:

estimating the received power included in at least the second received pilot signal.

5. The method of claim 3, wherein generating a second channel quality indicator value from said second measured signal value according to a second function further includes:

estimating the signal to noise ratio of the second received pilot signal.

6. The method of claim 1, wherein generating a first channel quality indicator value from said first measured signal value according to a first function includes:

estimating the signal to noise ratio of the first received pilot signal.

7. The method of claim 6, wherein generating a second channel quality indicator value from said second measured signal value according to a second function includes:

estimating the signal to noise ratio of the second received pilot signal.

8. The method of claim 1, wherein said first and second pilot tones are received during different non-overlapping time periods.

9. The method of claim 8, wherein said first and second pilot tones correspond to the same frequency.

10. The method of claim 1, wherein said first and second pilot tones are received during the same time period, the first and second pilot tones corresponding to different frequencies.

11. The method of claim 1,

wherein transmitting the first channel quality indicator value includes:

incorporating said first channel quality indicator value into a first message; and

transmitting said first message over a wireless communications link.

12. The method of claim 11,

wherein transmitting the second channel quality indicator value includes:

incorporating said second channel quality indicator value into said first message; and

transmitting said second channel quality indicator value with said first value in said first message over the wireless communications link.

13. The method of claim 11, further comprising:

repeatedly performing said steps of:

measuring a first pilot signal to produce a first measured signal value;

generating a first channel quality indicator value;

incorporating said first channel quality indicator value into a first message;

transmitting said first message over a wireless communications link;

measuring a second pilot signal;

generating a second channel quality indicator value;

incorporating said second channel quality indicator value into a second message which is different from said first message; and

transmitting said second message over said wireless communications link.

14. The method of claim 13, further comprising:

periodically repeating said steps of transmitting the first channel quality indicator value and the second channel quality indicator value to transmit the corresponding values generated by repeatedly performing said measuring and generating steps, the generated first and second channel quality values being transmitted in an interleaved manner over time.

15. The method of claim 14, wherein said interleaved manner includes alternating the transmission of said first and second messages.

16. The method of claim 13, wherein said first and second messages are transmitted using communications channel segments dedicated to carrying channel quality indicator values, said messages carrying no explicit message types to indicate said messages are to report channel quality values.

17. The method of claim 16, wherein said messages are transmitted during pre-selected dedicated time slots dedicated for use by said wireless terminal, said dedication of said dedicated time slots precluding other wireless terminals using said dedicated time slots.

18. The method of claim 1, wherein said wireless terminal is located in a first sector of a sectorized cell in which each sector uses the same set of tones, the step of measuring at least one of an amplitude and a phase of a first pilot signal to produce a first measured signal value including:

performing said first pilot signal measurement during a time period during which a sector located adjacent said first sector transmits another pilot signal on the same tone as the first pilot

but using a different pre-selected transmission power from the pre-selected transmission power used to transmit the first pilot signal.

19. The method of 18, wherein said another pilot signal is a NULL pilot signal and wherein said different pre-selected transmission power used to transmit said another pilot signal during said time period is zero.

20. The method of claim 19, wherein said second step of measuring at least one of an amplitude and a phase of a second pilot signal to produce a second measured signal value, includes:

performing said second pilot signal measurement during a time period during which a sector located adjacent said first sector transmits an additional pilot signal on the same tone as the second pilot using the same pre-selected transmission power as the pre-selected transmission power used to transmit the second pilot signal.

21. The method of claim 20, wherein the first and second pilot signal measurements are performed at the same time.

22. The method of claim 21, further comprising:

measuring, at said same time, the power received on a third tone on which no signals are transmitted during said same time, said same time being a symbol period used to transmit one symbol.

23. The method of claim 18, further comprising:

determining relative position of the wireless terminal to at least two adjacent sectors to the sector in which the wireless terminal is located based on said first and second signal measurements; and

transmitting position information indicating a relative position to a sector boundary to a base station.

24. The method of claim 23, further comprising:

selecting channel information from to be transmitted to said base station as a function of the determined relative position to a sector boundary.

25. The method of claim 24, wherein different channel condition information is transmitted when said wireless terminal is near a first sector boundary than when it is near a second sector boundary.

26. The method of claim 18, wherein the first channel quality indicator value is a function of a ratio of channel gain of an interfering sector and the sector in which the wireless terminal is located.

27. The method of claim 18, wherein the second signal measurement is made during a time period where each of the sectors transmits a NULL on said second tone; and

wherein said second channel quality indicator value is a measurement of the noise on said second tone during the transmission of said NULL by each of the sectors of the cell on said second tone.

28. The method of claim 18, wherein said method is further directed to using channel quality information to control transmission power in a sector of a cell, the method comprising:

operating a base station to receive said first and second channel quality indicator values; and

operating the base station to calculate from the first and second channel quality indicator values, an amount of transmission power required to achieve a desired signal to noise ratio at said wireless terminal, said calculating requiring at least two different channel quality indicator values to determining said amount of transmission power.

29. The method of claim 28, further comprising:

periodically repeating said step of operating the base station to calculate said amount of transmission power using a different set of first and second channel quality indicator values received from said wireless terminal, each different set of first and second channel quality indicator values corresponding to a different symbol time during which said first and second pilot signal measurements were made.

30. A wireless terminal, said wireless terminal including:

a receiver for receiving pilot signals;

measuring means for measuring at least one of an amplitude and a phase of a first pilot signal to produce a first measured signal value and at least one of an amplitude and a phase of a second pilot signal to produce a second measured signal value;

channel quality indicator value generation means for generating a first channel quality indicator value from said first measured signal value according to a first function which uses at least said first measured signal value as an input and generates a second channel quality indicator value from said second measured signal value according to a second function which uses at least said second measured signal value as an input; and

a transmitter for transmitting the first and second channel quality indicator values.

31. The wireless terminal of claim 30, wherein said channel quality indicator value generation means includes software instructions for controlling a processing device to:

estimate the received power included in at least one of the first and second received pilot signals.

32. The wireless terminal of claim 31, wherein said channel quality indicator value generation means further includes additional software instructions for controlling the processing device to:

estimate the received power included in at least the second received pilot signal.

33. The wireless terminal of claim 31, wherein said channel quality indicator value generation means further includes additional software instructions for controlling the processing device to:

estimate the signal to noise ratio of the second received pilot signal.

34. The wireless terminal of claim 31, wherein said means for transmitting includes:

a message generation module for generating a first message including said first channel quality indicator value.

35. The wireless terminal of claim 34, wherein said message generation module includes said second channel quality indicator value in said first message.

36. The wireless terminal of claim 34, wherein said message generation modules includes machine executable instructions for controlling a machine to generate a second message including said second channel quality indicator value.

37. The wireless terminal of claim 34, further comprising:
means for determining the position of the wireless terminal relative to a sector boundary from received signals.

38. The wireless terminal of claim 37, wherein said message generation module includes position information in said first message.

39. A base station, comprising:
a receiver for receiving at least two channel quality indicator values from a wireless terminal; and
means for determining from at least two different channel quality indicator values a transmission power required to achieve a desired signal to noise ratio at said wireless terminal.

40. The base station of claim 39, wherein said at least two different channel quality indicator values correspond to different power signal measurements made by said wireless terminal at the same time, said determined transmission power being a function of said at least two channel quality indicator values.

41. The base station of claim 40, further comprising:
means for transmitting a signal to said wireless terminal using a transmission power determined from said at least two channel quality indicator values.

42. The base station of claim 41, further comprising:
means for extracting said at least two different channel quality values from a single message received from said wireless terminal.

43. The base station of claim 41, further comprising:
means for extracting said at least two different channel quality values from two separate messages received from said wireless terminal.

44. The base station of claim 40, further comprising:

means for receiving channel quality indicator information indicating the position of the wireless terminal relative to a second boundary included in a multi-sector cell.

45. The base station of claim 40, further comprising:

a multi-sector transmit antenna for transmitting pilot signals into a plurality of sectors of a cell at the same time; and

a transmitter coupled to said multi-sector antenna for transmitting pilot signals into each sector in a synchronized manner such that transmission of the pilot tones into all sectors of the cell use the same set of tones and are transmitted at substantially the same time in each of the sectors, said wireless terminal being located in one of said multiple sectors.